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ABSTRACT

A three-section survey instrument was developed to provide descriptive and expressive information about teenagers' attitudes and fear reactions related to the nuclear threat. The first section consisted of one open-ended statement, "Write down your three greatest worries." The second section consisted of 20 areas of potential worry or concern considered salient to teenagers. The third section contained self-report opinion questions, self-ratings of anxiety and adjustment, ratings of perceived parent attitudes, and other questions of practical and theoretical value. Data were analyzed from the forced choice ratings and active rankings (section two) obtained from administration of the instrument to samples of adolescents in California (N=913), the Soviet Union (N=293), Hungary (N=267), Italy (N=1,030), and Ireland (N=425). The data showed that nuclear war was of great concern (second only to fears about parents dying) and that degree of concern was consistent across countries sampled. Future research should examine the psychological impact of the stress of nuclear concerns on the psychological development of children and adolescents and attempt to find ways to minimize negative effects. (NB)

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Children's Attitudes About Nuclear War: Results of Large-Scale Surveys of Adolescents

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Paper presented at the American Public Health Association Convention, September 1986, Las Vegas, Nevada.

For the past three and one-half years, John Goldenring and I have been devoting our research efforts to assessing the attitudes and psychological effects of the threat of nuclear war on teenagers in this country and in various countries in eastern and western Europe. Todd Gross has joined us within the last year to add expertice in methodology and statistical analysis. Our interest really began with the simple question of 'How concerned are teenagers about the threat of nuclear war' and 'What effect does this concern have on their lives and their psychological development?' When we began our work there was really very little empirical information on the attitudes of adolescents. Escalona and Schwebel had published papers on young and older children (respectively) and their preoccupation with nuclear war but these were reported in the 60's and there had been almost no followup studies. Bachman, at Michigan, had assessed attitudes of high school seniors on questions related to the military and collected some responses to questions about nuclear concerns. But it was really John Mack and his associates, who persuaded the American Psychiatric Association to sponsor a study specifically to assess children's fear about nuclear war, who really began a serious and concentrated psychological examination of children and fears and concerns about living in a nuclear age. His survey, like those that preceeded it, found large numbers of frighted and isolated children who not only feared nuclear devastation but also expressed diminished plans for the future and intrusions in their daily thoughts and feelings.

John Mack concluded his survey with the expressed desire that "more surveys of systematically chosen large samples...[would be done that would] focus not only on whether youngsters are worried or afraid, but on how concerned they are in comparison to other worries and what they see as the possible impact of the nuclear threat on their lives and daily functioning" (Beardslee and Mack, 1983). John Goldenring and I had exactly that in mind when we developed our survey instrument and began to administer it to teenagers in California.

When we began our work, it is safe to say that the public viewed children as uninformed, disinterested and unable to comprehend the complexity of issues but also as vunerable and in need of shelter from information about the nuclear threat. As you will see in a minute, these beliefs were completely false.

We wanted to design an instrument that would provide accurate, descriptive and expressive information about teenagers' attitudes and fear reactions (Doctor, Goldenring, and Powell 1987). On the other hand, we felt that this instrument had to be disguised in such a way that respondents would not know its major intent or area of focus. We also wanted to assess possible reactions to nuclear worry, sources of information, support, the effect on their lives and on their sense of the future. With this in mind, we developed a three sectioned instrument for exploratory surveys. The first section consisted of one open ended question- "Write down your three greatest worries." Data from these spontaneous open ended responses have been categorized and clustered but are not part of my talk today. I would only say about them that the children **spontaneously** nominated nuclear war as their fifth greatest concern of some 80 categories but second among the nonimmediate

and nonpersonal categories.

The second section of the questionnaire which I will focus on today almost exclusively consisted of 20 areas of potential worry or concern considered salient to teenagers. These areas had been selected by a panel of child experts composed of teachers, psychologists, psychistrists, pediatricians, and parents. The adolescent samples were asked to rate the intensity of their worry about each item. These were forced choice ratings on essentially Likert type intensity scales. Nuclear war was one of the 20 items. Following these ratings, respondents were asked to select the three greatest worries of the 20 they had just rated. This produced an active ranking which we used later as a criterion measure to separate respondents into high and low worried groups. We then compared responses of these two groups on the demographic and dependent measures. Unfortunately we do not have sufficient time to present all of this data so my talk today will focus mainly on summarizing the 20 item rating data and the ranking information.

The third section of the questionnaire was composed of numerous self-report opinion questions, self-ratings of anxiety and adjustment, ratings of perceived parent attitudes and other questions of practical and theoretical value. Where appropriate, I will touch on the responses to some of these questions. Again, however, only in a summary manner.

Today I want to present summary data from the forced choice ratings and active rankings collected from a large California sample that was representative of American high school and junior high school adolescents, from a sample of Soviet children of similar age, and from samples of Hungerian, Italian and Irish

adolescents again of similar age. In this way we can look at the singular question of how concerned are teenagers today about nuclear war as compared to other possible areas of concern in their lives? And we can examine the question among various countries to see the extent of reactions to the nuclear threat.

Table 1 provides an overview of our large California sample and of comparisons of a subsample of California children with similarly aged Soviet teenagers. Our California sample consisted of 913 junior and senior high school adolescents from northern and southern California. They attended urban schools and most respondents took the survey in a social studies class. Since social studies is a required subject in California schools, sample selection was relatively unsystematic. As much as I would like to avoid the presentation of data from the margins or summary information, but brevity and economy of time require that we focus primarily on such information. Where qualifiers are needed or interaction with subject variables are present I will try to point these out.

The mean scores for the large California sample are presented in the first column of Table 1. These values are averages from the forced choice ratings on a four point intensity scale (high scores mean greater worry). The items are presented within the factor structure produced from a principle component factor anaysis with Varimax rotation. Factor I represents a cluster of items we called "external concerns" which seem to relate to concern about the outer or greater world. The second Factor seems to reflect immediate, internal, personal concerns more relevant to the smaller, personal world. And Factor III consisted of items dealing with death. Later,

when we examine the Soviet comparisons, these factors will be important anchors for presentation and discussion. For now, however, we can scan the means for items and see that "parent dying" had the highest value (3.16),"bad grades" was second (with a mean of 2.94) and "nuclear war" was third most intense (with a mean value of 2.69). Again, remember that these ratings were made without knowledge that this was a questionnaire to assess concern about nuclear war. The fact that this item was third in intensity indicated that nuclear war is a high order worry among adolescents. A z-value was computed for comparison of the mean score for nuclear war and the average mean score for all other items. This z-value (13.44, df=912, $p<.001$) was highly significant, indicating that nuclear war intensity ratings deviated significantly from the average of all items.

In the second column of Table 1 are the percent of respondents who rated respective items as "4" ("very worried"). Almost 32% of our sample rated nuclear war as something they are very worried about. On the other hand, note that items that on face value would appear to be highly rated (such as getting hooked on drugs, not being liked and earthquakes, for example) were not intensely rated.

Column three presents the percent of respondents who ranked each item first when asked to choose the three greatest worries from the twenty worry items. In ranking, nuclear war is now second choice among the twenty possible worry areas (32.8% ranked it in the top three). Parent dying was the only item ranked more frequently (54.9% ranked it in the top three). Viewed from this perspective, nuclear war comparatively ranks as one of the top three concerns by almost a third of respondents,

and as the top concern by 12.4%.

Lets move into the first of some cross cultural data. Columns four and five present mean values for a subsample of California teens and a sample of Soviet teens selected from mandatory summer programs (Doctor, Goldenring, and Chivian, 1987). The subsample from California was somewhat younger than the full California sample (they were matched with the Soviets for range of ages). Nuclear war worry was inversely related to age in the large sample so the mean score for the subsample was greater and nuclear war was now second rated in intensity to parent dying (which remained first). Bad grades were third rated among the California subsample. The forced choice ratings for Soviet teenagers, however, resulted in nuclear being rated first in intensity. Parents dying was second, starvation third and pollution was fourth. A clear pattern of responses emerges if you look at the items by factor loadings and at the mean factor scores. From the factor loadings, it is very clear that Soviet children rated external, world threats as significantly higher that the American sample- and nuclear war was their greatest concern among these world threats. On the other hand, American teens rated personal concerns (Factor II) higher ($p<.12$) than their Soviet comparisons (except for the item "not being liked" which greatly worried the Soviet teens). On Factor III (Threat of Death or Sickness) there were no differences between the groups.

In terms of the item having to do with nuclear war, 88% of Soviet teenagers rated nuclear war as "very disturbing" whereas only 39.5% of Americans rated it as such. Apparently, the threat of nuclear war is more intense and pervasive among Soviet teenagers than American counterparts. Since devastation and war

are continuous memories in the Soviet Union, it is understandable that the present threat would be intensely preoccupying. It was also evident, from other results in these comparisons that Soviet teenagers are very well informed about the consequences of a nuclear war (i.e., that survival is not possible) and are overwhelmingly more optimistic that "it is possible to prevent nuclear war" than American adolescents. These results speak to many issues but suffice it to say that American teenagers, while they are concerned, are not as well informed as Soviet teens and the Americans have less confidence in their government to find ways to prevent a nuclear conflict than the Soviets.

So far, we have shown that American and Soviet teenagers are very concerned about the possibility of a nuclear war and that these concerns rank near the top of possible worry areas. To Americans, the possibility of a nuclear war is third in intensity of worry and second in importance among other relevant concerns. To the Soviet sample, nuclear war is the greatest concern for a vast majority and that their greatest worries center around world issues (as opposed to more personal concerns). Let us now turn, briefly, to some new data we are analyzing from Hungary, Ireland and Italy. Again, for purposes of presentation, we are going to examine only data from the margins but, as before, contributions outside of sample differences (such as age and sex of respondent) have been examined and excised or found to be of no systematic importance. For the most part, these demographic variables have not been found to contribute to results at all!

Table 2 provides a summary of the 20-item data from

Hungary, Ireland and Italy. We are just now making statistic comparisons among these countries and looking at the effects of age, sex and other demographic variables so I cannot make comparisons. However, we can examine the three countries in terms of the data I have presented from California and the Soviet Union. In the Hungarian sample, nuclear war was rated as second only in intensity to parent dying with being sick or cripple as third rated. An examination of rankings shows that parent dying was ranked first by 39.02% of the sample (and first or second by 68.55% of the sample) and nuclear war was ranked first by 27.80% (and first or second by 49.04%). The next highest item ranked first was only nominated 7.32% of the time and the highest combination of first and second rankings was for being sick or cripple and that was only 19.26%. In other words, rankings, which are expressions of relative concern among the various items showed parent death and nuclear war as the two most outstanding concerns among Hungarian teenagers. The same pattern holds for Irish teens. Here, however, nuclear war was rated as third in intensity (behind "Parent Dying" and "People starving in the world"). The later item was probably salient because the Live Aide Concert had just occurred in that area. But Parent Dying was ranked first by 22.81% and Nuclear War first by 22.00% and the next highest rank first was 8.15% (for "Not Having a Job"). When we calculated the top four ranks Parent Dying was ranked in the top four by 65.18% of the respondents and Nuclear War by 55.53%. The next highest ranking for top four was 34.12% for Not Having a Job.

For the Italy sample, the question on Nuclear War was fourth in mean intensity (behind Parent Dying, Sick/Cripple,

World Starvation). Rankings, however, again showed that Nuclear War was second only to Parent Dying with 38.16% ranking it as one of their top three concerns and 20% ranking it as their greatest concern. Almost 50% of Hungarian teens indicated being "very worried" about nuclear war.

Let me conclude by returning to the original question of how concerned are teenagers about nuclear war. It is evident from all this data that nuclear war is of great concern- second only to fears about parents dying- and that degree of concern is consistent across countries sampled. What is needed now is to examine the psychological impact of this stressor on the psychological development of adolescents and preadolescents and to find ways to minimize its inhibitory and self-destructive effects. Fears about nuclear war are real- not phobias to be desensitized or avoided. As such, they have an effect on those who express and experience the fear and on those who deny their fears. Our research task is to begin to identify and find ways to work with both sets of adolescents.

But a much greater task lies before us as parents, teacher, public health professionals and just human beings concerned with the continuation of life on this small planet. We must change man's image of the future and begin the process of evolving a new race of cooperating humans who have no need to fear the future, but rather can approach tomorrow as a challenage to be built out of joy and optimism.

I wish to leave you with a statement made by William James in 1902 in which he said:

> "...What we now need to discover in the social realm is the moral equivalent of war; something heroic that will speak to men as universally as war does, and yet will be as compatible with their

spiritual selves as war has proved itself to be incomparible"

Thank you.

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2. Doctor, R. M., Goldenring, J. M., Chivian, E. et al. (1987) Self reports of American and Soviet teenagers about worry about nuclear war. International Journal of Political Psychology 1987 publication in press

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Table 1. Listing of 20 worry items by factors for American and Soviet teenagers.

FACTOR I (EXTERNAL CONCERNS)	U.S.[1]	%4 RATE	RANK	U.S.[2]	U.S.S.R.[3]	
Getting cancer	2.00	11.2	2.4	2.22	2.32	
Earthquakes	2.06	11.7	3.4	2.46	1.79	*
Nuclear War	2.69	31.9	12.4	2.99	3.86	*
Pollution	2.19	12.5	1.3	2.27	3.30	*
Overpopulation	2.00	9.8	.3	2.13	2.49	*
Starvation	2.51	17.6	1.5	2.67	3.60	*
Nuclear Power Leaks	2.29	17.6	.9			
Factor I mean scores				12.20	13.77	*
FACTOR II (INTERNAL/PERSONAL CONCERNS)						
Not Being Liked	2.08	11.2	5.2	2.08	2.80	*
No Job	2.47	21.4	9.1	2.58	2.28	
Moving	1.83	7.8	1.3	1.85	1.54	*
Looking Ugly	2.10	13.2	1.1	2.15	1.79	*
No Family Money	2.29	16.0	2.4	2.54	2.28	
Bad Grades	2.94	37.0	10.2	2.89	2.89	
Getting Pregnant	1.91	17.1	2.6			
Factor II mean scores				14.20	13.51	
FACTOR III (THREAT OF DEATH)						
Parent(s) dying	3.16	53.3	29.1	3.30	3.68	*
Sick/Crippled	2.64	29.7	3.2	2.80	2.86	
Own Death	2.40	28.0	5.9	2.72	2.79	
Victum of Crime	2.52	25.3	4.0			
Factor III mean scores				8.97	9.30	
Parents Divorcing	1.91	17.1	2.6			
Getting Hooked on Drugs	1.70	15.0	1.3			

1.N=913 Mean Age=16.12 2.N=201 Mean Age= 13.6 3.N=293 Mean Age= 12.8
*p<.001

Table 2. Mean scores for respondents from Hungary, Ireland and Italy to the forced choice 20 worry items.

Item	Hungary[1]	Ireland[2]	Italy[3]
Getting cancer	-	2.23	2.54
Overpopulation	2.42	2.02	2.11
Nuclear Leak	-	2.71	2.56
Pollution	2.62	2.24	2.54
Nuclear War	3.33	3.06	3.07
Starvation	3.01	3.10	3.08
Earthquake	-	1.39	2.25
Looking Ugly	2.44	2.07	2.01
Getting Pregnant	3.00	2.38	2.39
No Job	2.63	3.00	2.92
Bad Grades	-	2.81	2.80
No Money	2.74	2.51	2.56
Moving	1.71	1.87	1.83
Parents Divorcing	2.94	2.25	2.39
Sick/Cripple	3.25	2.89	3.13
Own Death	3.01	2.37	2.77
Parent Dying	3.74	3.31	3.42
Victum of Crime	2.75	2.75	2.50
Hooked on Drugs	2.62	2.05	2.03

1.N=267 mean age 14.2 2.N=425 mean age=15.0 3.N=1030 mean age=16.5